



20TH ERRA ANNUAL CONFERENCE

EN ROUTE TO SUSTAINABLE REGULATION
UNDER NEW MARKET PARADIGMS

09-10 October, 2023
BUDAPEST, HUNGARY



CONFERENCE DAILY

Day 1 notes

Opening Session



More than 180 delegates from 36 countries gathered in Budapest to attend ERRA's 20th Energy Investment Conference. The conference was opened with the opening remarks of the Chair of the Hungarian Energy and Public Utility Regulatory Authority (MEKH), Ms. Edit Juhász and the Chair of the Energy Regulators Regional Association, Dr. Maia Melikidze. Chair Juhász stressed the theme of the conference resonates with the challenges faced by MEKH, as the country is heading in the direction of having 90% of the electricity production carbon free by the end of the decade. Chair Juhász noted large-scale investments are required in order to achieve this while an appropriate rate of return should be ensured. While affordability remains crucial even more so in terms of crisis, regulators have a role of maintaining stable and predictable regulations in the energy sector.

Attila Steiner, State Secretary for Energy and Climate Policy at the Ministry of Energy, noted the importance of developing regulations and policies which are tailored to the current sector challenges and underlined the energy trilemma of security of supply, affordability and sustainability should be adequately balanced. For Hungary, as a land-locked country, interconnectivity is very important, both in natural gas and electricity. Therefore, while the main energy policy objectives remain the same, the focus of the energy strategy has shifted towards energy sovereignty and affordability. Following the crisis, the interventions in the energy sector focused on reducing natural gas demand in the energy mix, increasing the share of alternative energy sources and serving the growing demand for electricity and flexibility.

In the first session of the conference, Rob Barnett, Technical Director at the Economic Consulting Associates, provided a presentation on the recent energy crisis with an overview of regulatory considerations for the future market model. The presentation highlighted measures undertaken by governments and regulators, both on the short term and the long-term, to address energy affordability, energy security of supply and efficiency. Inframarginal rent capping preserves the marginal price signal on the

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market. However, it affects the profitability of the generators, which can have an impact on future investment.

The panel discussion emphasized that the crisis was a result of a 'perfect storm' but the price increase was predominantly affected by the curtailed gas supply. The gas storages operated by the companies were not full during 2021 which is something which did not occur in the past. The markets were responding to commodity scarcity and demand was responding to the price increase however the shock to the customers and to affordability justified the interventions which were made. The panel also discussed the policy on infra-marginal rents and what constitutes a windfall profit. In non-EU ERA Member Organizations, the scale of the intervention depended on the level of marketization. The EU market model relies on short-term market sending long-term investment signals, whereas in the other countries surveyed the focus is much more on the long-term and centrally planned.

Session II



The second session provided an overview of the regional energy outlook within new market paradigms in Europe, reviewing the experiences of Hungary, Poland, Estonia, Austria and Slovakia. The panel participants noted that the market interventions did not necessarily solve the problem at the root but were focused on the symptoms of the crisis, focusing on affordability and on energy availability. For the new market model, in general, the panel agreed that it is important to allow for interventions in the market in times of crisis and then continue to allow the market to function fully after temporary measures have been curtailed. The new market design proposal is taking small steps and this is positive as the market design should not be changed in a panic mode.

The 3rd session of the day focused on energy market outlooks in non-EU regions, covering case studies from Oman, Nigeria, Kosovo and Thailand. The panel discussed the challenges of bifurcating the political economy from issues of electricity tariffs as in some emerging economies the society perceives electricity and energy as a good that should be publicly provided. In Nigeria, the regulatory process of reforming the pricing of the commodities has presented a shock in the system as it was also coupled with exchange rate depreciation and volatility. Mr. Akpeneye noted the energy transition has a different meaning in Europe and the west compared to Africa. While in Europe it means moving production towards cleaner resources, in Africa energy transition means moving from firewood to having grid-connected supply. This is being done through home solar home systems, mini-grids and main grid expansion. The case of Kosovo presented the reforms in the country, emphasizing the progress of the energy sector in putting together an enabling environment for competition. The country already achieved their 2020 RES targets and has ambitious RES targets for 2030. On the competition front, it is coupling with the Albania and has plans through the support of NARUC to couple with North Macedonia and Greece in the near future. The Thai presentation provided an overview of the

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challenges of price coverage and affordability in the country in general and noted that the energy crisis had a significant impact on the supply of the country, whose electricity generation heavily relies on gas. A number of measures were taken as a response to the crisis, including postponing of decommissioning plans, increasing the number of import licensees, increasing RES capacities and continuing price regulation.

Session IV



Session IV covered adaptation challenges from the perspective of market participants and was moderated by Mr. Péter Kaderják, former Chair of ERRA and current Head of the Hungarian Battery Association. The panel included market participants from E.ON providing the DSO perspective of demand-side flexibility and a representative of the Natural Gas Transmission System who addressed the ability of the gas transmission system to accept renewable gases.

Mr. Zoltán Pataki of E.ON provided a presentation of the DAPPoD project, which stands for decentralized autonomous Photovoltaic Power Derating which reduces voltage parameters' violation by automated inverter regulation. It does so by downloading an algorithm to the inverters of a number of customers which automatically limits power output to a certain voltage level. This presents a number of issues from a regulatory perspective, including a moral dilemma of curtailment as some customers are being paid to curtail their production so that other customers can produce. Mr. Pataki noted that the customer engagement is a key for success of flexibility and emphasized the need for streamlined processes with easy-to-use solutions. Mr. Pataki emphasized that regulators should allow utilities to experiment and innovate best studies as there are a number of barriers to this at the moment.

Mr. Gábor Szokodi provided a presentation on the TSO role on allowing blending, pure hydrogen and biomethane acceptance from the grid. Mr. Szokodi noted that an assessment of the readiness for hydrogen blending needs to be conducted however due to the size of the network this assessment will have a considerable cost. However, a smaller section has been selected which envisaged installation of chromatographs. In the current stage the company is undergoing pipeline diagnostics in order to have precise measurements to handle the gas hydrogen mix in the system. On the biomethane front, Hungary calculated a 1bcm potential for biomethane by 2030 which is a significant amount but it will not cover all of the domestic natural gas consumption. The TSO system might be away from Biomethane production sites so the DSO system will be closer however the consumption of the distribution system limits the amount that can be injected therefore the transmission system can help absorb this supply. The higher transmission system pressure will require some investment.

In summary, on the blending front, the process enhances hydrogen production without having a pure hydrogen system. However, this is a less efficient solution in the long-term as a lot of energy content is lost since only

1/3 of the calorific value is utilized, which is a setback for energy transition goals. Regarding hydrogen, direct industrial networks will be the backbone of the network and the challenge is to identify and connect supply and demand of hydrogen. Biomethane presents a significant potential to replace natural gas. However, there are smaller and remote production points and the role of the TSO is more focused on coordination and settlement. Mr. Szokodi noted that an incentivizing regulatory framework and financing scheme is needed to incentivize investment in these businesses with higher risk profiles.

Day 2 notes

Opening Session



Day 2 of the ERA Conference opened with the invitation ceremony to the 2024 ERA Annual Conference which will take place in Bangkok, Thailand by Dr. Sudharma Yoonaidharma, Commissioner of the Energy Regulatory Commission (ERC) of Thailand.



Pál Ságvári, ERA Vice Chair and Vice-President of the Strategic and International Affairs at MEKH introduced the Regulatory Authority for Energy Water and Waste (RAEWW) as the 47th member of ERA.

Session V of the conference covered policy and regulatory adaptation challenges for the evolving energy sector. The session kicked off with two presentations from Stephen Woodhouse of AFRY Management Consulting and Konstantin Petrov of DNV Energy Systems. Mr. Woodhouse noted several challenges with the incentive schemes for green investment highlighting that the future electricity system requires providers of a range of types of flexibility with new buyers and new product definitions. For real time flexibility, this means maintaining system stability in relation to inertia, voltage and short circuit levels. The requirement for seasonal storage continues to be a challenge for the sector.

Konstantin Petrov from DNV Energy Systems provided a presentation on regulatory instruments in support of the energy transition. The presentation started with an overview of the energy transition characteristics, noting the permanent growth of intermittent RES generation, new types of load, new technologies for storages, demand response and smart applications as well as bi-directional electricity flows in the electricity distribution. These pose a number of commercial and technical challenges which need to be addressed. Mr. Petrov highlighted the regulatory instrument for investment, efficiency, innovation and coordination incentives. Mr. Petrov noted there is a trend and increase in focus on forward-looking regulation and explicit innovation incentives.

Session V



Following these presentations, the session reviewed three country case-study presentations: (i) Jussi Matilainen of Fingrid Oy provided a presentation of Demand-Side Flexibility in System Operation; (ii) Ivan Faucheux provided a presentation on the best practices in Biomethane; and (iii) George Loizos covered energy storage subsidy schemes in Greece.

Session VI



Session VI of the conference reviewed regulatory mandates for the energy transition under new market conditions. Moderated by Ardian Berisha, the panel covered regulatory roles in ensuring bankable support schemes under new market conditions, reviewed case studies of examples of CfD-convertible PPAs and some of the distortions and setbacks such CfD support schemes represent, and regulatory mandates in expediting and streamlining grid investment. The panel opened with a presentation on energy sector reform and energy transition in Central Asia by Maksudjon Safarov. This was followed by a case study presentation from Elton Radheshi of ERE Albania, covering the Albanian experience in implementing CfD convertible PPAs. The last two presentations from Andrew Flagg and PJ McCloskey highlighted the regulators' roles in accelerating the energy transition and presented the case study of Abu Dhabi in the transition process.

The last session of the conference consisted of a very special panel of ERRA's founding regulators and mentors who reflected on the novel directions in energy regulation. The panel was moderated by Gergely Szabo, Head of the Department of International Affairs at MEKH. Robert Archer, Former Deputy Chief of the Bureau for Europe & Eurasia at USAID, Mariusz Swora, Member of the ERRA Strategic Advisory Board, Gábor Szörényi, Former Chair and General Secretary of ERRA and Michael Thomadakis, former Commissioner of the Greek Energy Regulatory Authority completed the panel. The speakers underlined that the reliance on international best practice and international cooperation were the foundation for ERRA's establishment and such cooperation will have paramount importance in the energy transition process going forward.

Session VII



Closing Remarks



The conference was closed by Dr. Maia Melikidze, Chair of the Energy Regulators Regional Association (ERRA). Ms. Melikidze noted the theme of the conference “*En route* to sustainable regulation under new market paradigms” aligns with the expectations and the challenges faced by ERRA member regulators and that – despite the geographical diversity – ERRA members rarely differ on the challenges faced. Chair Melikidze echoed the discussions of the conference supporting a non-intrusive adjustment of the electricity market design in response to the crisis. Chair Melikidze noted the energy transition is presenting a number of commercial, technical and regulatory challenges and underlined the importance of regulatory cooperation in navigating through the challenges of the transition.

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